

surface (column 2b, lines 90-100) so the emulsion which coats from about 200 to 1200 mg per square meter falls in that range.

Applicant respond as follows:

Applicant respectfully traverses Examiner's rejection that the claims are anticipated by GB 1470726.

Under the patent statute, a patent claim is invalid if the claimed invention is anticipated by a prior art reference under 35 U.S.C. § 102. The Federal Circuit has held that anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *See, e.g., In re Spada*, 911 F.2d 705, 15 U.S.P.Q.2d 1655 (Fed. Cir. 1990); *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989); *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 7 U.S.P.Q.2d 1315 (Fed. Cir. 1988); *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1 U.S.P.Q.2d 1081 (Fed. Cir. 1986). For anticipation, **there must be no difference** between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1665, 18 U.S.P.Q.2d 1001 (Fed. Cir. 1991) (emphasis added).

The claims of the present invention relate to an aqueous coating composition for a food casing comprising greater than 50 wt% of water and at least one polyglyceryl ester. *See Application at pp. 2-3.* According to the Examiner, GB 1470726 teaches an aqueous emulsion (aqueous coating composition) for coating the internal surface of a food (sausage) casing comprising at least one polyglyceryl ester and greater than 65 wt% of water (0.5-2.5% water soluble cellulose derivative (ether), 0.2-2% polyglyceryl ester (diglyceride), 0.25-2% partial fatty acid ester of sorbitan or mannitan, and the balance is essentially water) (column 4a, lines 40-55). In analyzing GB 1470726, the Examiner has

erroneously analogized the mixed mono and diglyceride taught in GB 1470726 with a polyglyceryl ester. In fact, monoglycerides and diglycerides are not the same as polyglyceryl esters and each type of molecule possesses a different chemical composition. Monoglycerides are formed by the combination of one fatty acid unit with one glycerol unit. Diglycerides are formed by a chemical combination of fatty acids and glycerol in the proportion of two fatty acid units to one glycerol unit. Polyglyceryl esters on the other hand, are formed by polymerizing glycerol and then esterifying the glycerol polymer with selected fatty acids. In other words, monoglycerides and diglycerides by definition are composed of only a single glycerol molecule, while polyglyceryl esters are composed of more than one glycerol molecule. Therefore mono- and diglycerides are not polyglyceryl esters. Therefore, the Examiner's statement that the mono- and diglycerides described in GB 1470726 are polyglyceryl esters is incorrect. In sum, GB 1470726 does not teach the use of polyglyceryl esters in aqueous coating compositions for use in food casings. Therefore, GB 1470726 does not anticipate claims 21, 25-27, 31, 36-38, 41 and 42 of the invention.

Claims 21-23, 25, 28-31, 33-36, and 39-42 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. 5,370,914 by Hammer *et. al.* (hereinafter "Hammer"). In making the rejection, the Examiner states the following:

Hammer et al. teaches a coating for the inner surface of a food casing which improves peelability, and coats from 5 to about 100 mg square meter (column 1, lines 5-25). The coating is an aqueous emulsion which teaches additives of low viscosity oils such as natural oils, synthetic polyglyceryl esters (di- or tri- glycerides) and silicon oils, emulsifiers, and polyhydric alcohols such as propylene glycol (1,2-propane diol), each one in the amounts if 0.5 to 30 % by weight relative to the total weight of the aqueous solution (column 3, lines 30-65).

Applicant responds as follows:

Applicant respectfully traverses Examiner's rejection that the claims are anticipated by Hammer. Hammer, like GB 1470726, does not teach the use of polyglyceryl esters in a coating compositions. Contrary to the Examiner's statement, and as previously explained, the mono-, di- and triglycerides used in the coating composition described in Hammer, are not polyglyceryl esters, and characterizing them as such is chemically incorrect. Therefore, Hammer does not anticipate claims 21-23, 25, 28-31, 33-36, and 39-42 of the invention.

RESPONSE TO REJECTION OF CLAIMS UNDER 35 U.S.C. § 103(a)

Claims 24 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hammer in view of U.S. Patent 3,966,632 by Colliopoulos *et. al.* (hereinafter "Colliopoulos"). According to the Examiner:

Hammer et. al. has been discussed above, and teaches the aqueous emulsion coating of the internal surface of food casing, but fails to teach triglyceryloleate. Colliopoulos et al. teaches a vegetable oil emulsion containing 1-4% of an emulsifying agent (surfactant) which is a particular mixed polyglycerol ester useful in preparing edible food products (abstract). The vegetable oil can be soybean or cottonseed oil (column 1, lines 1-5). Colliopoulos et al. teaches that the esters are a mixture of di-, tri- and tetra polyglycerols, such as triglyceryloleate (triglycerol mono-oleate), which are emulsifying agents (better suited for preparing stable emulsions of vegetable oil particularly soybean oil containing more than 10% water) (column 1, lines 44-68). Because Colliopoulos et al. teaches that triglyceryloleate is better for preparing stable emulsions of oil containing more than 10% water, it would have been obvious to one of ordinary skill in the art to have substituted the triglyceryloleate of Colliopoulos et al. for the triglyceride as the polyglyceryl ester in the invention Hammer et al. in order to obtain an aqueous emulsion with improved stability, for food casings.

Applicant responds as follows:

Applicant respectfully traverses Examiner's rejection that the claims are unpatentable over Hammer in view of Colliopoulos.

To establish a prima facie case of obviousness, **three basic criteria** must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the

reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference(s) when combined must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991).

A Motivation to Combine Must Be Shown

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). A mere conclusory statement that modifications of the prior art to meet the claimed invention would have been "well within the ordinary skill of the art at the time the claimed invention was made" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). The Federal Circuit in *In re Zurko*, 258 F.3d 1379, 1385 (Fed. Cir. 2001), noted that "deficiencies of the cited references cannot be remedied by the Board's general conclusions about what is 'basic knowledge' or 'common sense' to one of ordinary skill in the art. *Id.* at 1697. In other words, *In re Zurko* expressly proscribes any reliance by an examiner on what constitutes the knowledge of one skilled in the art, when the assessment of that knowledge is not based on any evidence in the record. More recently, the Federal Circuit reiterated this position in *In re Lee*, where it took issue with the fact

that "neither the examiner nor the Board adequately supported the selection and combination of the ... references to render obvious that which [patentee] described." *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002).

If a proposed modification would render the prior art teaching being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984).

A prior art reference must be considered in its entirety, *i.e.*, as a **whole**, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 220 U.S.P.Q. 303 (Fed. Cir. 1983). A reference may be said to teach away when a person of ordinary skill, upon reading the reference, ... would be led in a direction divergent from the path that was taken by the applicant . . . [or] if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant." *In re Gurley*, 31 U.S.P.Q.2d 1130, 1131 (Fed. Cir. 1994).

There Must Be a Reasonable Expectation of Success

The prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091 (Fed. Cir. 1986). Evidence showing that there is no reasonable expectation of success supports a finding of nonobviousness. *In re Rinehart*, 531 F.2d 1048 (C.C.P.A. 1976).

All Claim Limitations Must Be Taught or Suggested

To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981

(C.C.P.A. 1974). In other words, “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382 (C.C.P.A. 1970).

The Examiner has not established a *prima facie* case of obviousness. The Examiner has failed to demonstrate any of the criteria required for a showing of *prima facie* obviousness, particularly, the requirements that there be a suggestion or motivation to modify the cited references or combine the reference teachings. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990).

As discussed earlier, Hammer teaches a coating composition for food casings comprising alginates, alginic acid, and/or chitosan along with additives such as oils. Examples of oils that can be used in the Hammer composition include mono-, di- and triglycerides. See Hammer at col. 3, lines 33-39. Furthermore, as discussed previously, mono-, di- and triglycerides are not polyglyceryl esters. Therefore, contrary to Examiner's observations it would not have been obvious to one of ordinary skill in the art to substitute the triglycerol mono-oleate polyglyceryl ester of Colliopoulos with the mono-, di- and triglycerides of Hammer, because such a substitution would require replacing one chemical molecule with a different molecule having a completely different molecular structure, because one of ordinary skill in the art would not be motivated to make such a substitution.

Furthermore, in Hammer, the mono-, di- and triglycerides are used as slip agents, shirring aids and/or release agents. See Hammer at col. 3, line 35. Colliopoulos teaches

the use of triglycerol mono-oleate polyglyceryl ester as a potential emulsifying agent.

See Colliopoulos at col. 1, lines 51-56. As such, one of ordinary skill in the art would not have been motivated to substitute an emulsifying agent in place of an additive serving the purpose of a slip agent, stirring aid and/or release agent.

In sum, the Examiner has failed to adequately demonstrate why one of ordinary skill in the art would be motivated to combine Hammer and Colliopoulos, especially in light of the fact that Hammer does not teach the use of a polyglyceryl ester in a composition used to coat food casings.

CONCLUSION

Applicant believes he has addressed all of the Examiner's concerns and rejections. In conjunction with the arguments above, Applicant believes that the claims are now in condition for allowance and respectfully requests that the Examiner grant such an action. If any questions or issues remain in the resolution of which the Examiner feels will be advanced by a conference with the Applicant's attorney, the Examiner is invited to contact the attorney at the number noted below.

Applicant has filed a Petition for a One Month Extension of Time along with the requisite fee of \$ 110 concurrently with this response. The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment, to Deposit Account 10-0447 (Reference No. 54916-00318USPT).

Respectfully submitted,

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Date: December 23, 2002

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